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PUBLIC UTILITIES COMMISSION
18 STATE HOUSE STATION
AUGUSTA, MAINE
04333-0018

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THOMAS L. WELCH
CHAIRMAN

EX PARTE OR LATE FILED

WILLIAM M. NUGENT
HEATHER F. HUNT
COMMISSIONERS

November 18 1997

Mr. William F. Caton
Acting Secretary
Federal Communications Commission
1919 M Street, N.W. Room 222
Washington, D.C.

Re: *EX PARTE* MEETING, CC DOCKET NO. 96-45, FEDERAL-STATE
JOINT BOARD ON UNIVERSAL SERVICE

From November 7 through November 13, 1997, Joel Shifman and Thomas Welch of the Maine Public Utilities Commission in Augusta, Maine participated in discussions at the NARUC Annual Convention with staff members of the 96-45 (section 254) Federal-State Joint Board staff members of the Federal Communications Commission and members of 96-45 Joint Board. At that meeting, Mr. Shifman and Mr. Welch discussed a paper produced by an Ad Hoc Staff Group which developed an alternative distribution proposal for high cost support. Ten copies of that paper are enclosed for your reference.

If you have any questions or require additional information, please feel free to call me at (207) 287-1381.

Sincerely,

Joel Shifman

JS/llp
Enclosure

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BEFORE THE FEDERAL COMMUNICATIONS COMMISSION

WASHINGTON, D.C. 20554

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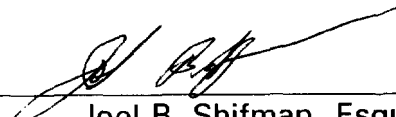
In the Matter of)

Federal-State Joint Board on)
Universal Service)
_____)

CC Docket No. 96-45

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a true and correct copy of the foregoing document
have been furnished to the parties on the attached service list this 18th day of
November, 1997.



Joel B. Shifman, Esquire
Maine Public Utilities Commission
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Augusta, Maine 04333-0018

STATE OF MAINE
PUBLIC UTILITIES COMMISSION
18 STATE HOUSE STATION
AUGUSTA, MAINE
04333-0018

MEMORANDUM

To: Members of the NARUC Communications Committee
From: Thomas L. Welch, Chairman
Date: October 21, 1997
Subject: High Cost Support, An Alternative Distribution Proposal

The accompanying document is the product of the working group, organized by Dave Baker of Georgia and me at Bob Rowe's request, charged with developing an approach to high cost support that would address the issues raised by both high and low cost states concerning the FCC plan.

I think the plan embodied in the working group document represents a sound approach to complying with the mandates of the Telecommunications Act, and I encourage your consideration and support.

HIGH COST SUPPORT:
AN ALTERNATIVE DISTRIBUTION PROPOSAL

Printed on: November 3, 1997

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I. Background

The purpose of this document is to propose an alternative to the FCC's plan for distributing federal high cost support to rural areas. This proposal was prepared at the request of the Chairman of the Communications Committee of the National Association of Regulatory Commissioners and is to be considered by that committee.

Under the supervision of Commissioners David Baker of the Georgia Public Service Commission and Thomas Welch of the Maine Public Utilities Commission, staff from several states, including Georgia, Maine, Maryland, New York and Vermont, have conducted weekly telephone conferences to develop the proposal described in this paper. The goal of this work has been to find a method of distributing federal high cost support that could be supported by both high-cost and low-cost states.

The proposal described below was designed to allow the FCC to meet its statutory obligation to provide sufficient support for high cost areas, but to use no more than the amount of money that the FCC has indicated it would otherwise be willing to raise from the interstate revenues of interstate carriers.

The proposed plan provides sufficient federal support from interstate sources so that each state's average costs, net of that federal support, do not exceed the national average cost. To achieve that objective, support is calculated using the lower of each state's forward-looking or embedded costs. However, no state receives less than the total amount of support currently received by "cost companies" in that state from the current federal loop and switching support mechanisms. After this federal support is paid to states, individual state commissions will distribute these funds, together with any funds generated through supplemental state programs, to qualifying local exchange companies, thereby ensuring that rates in rural areas are reasonably comparable with rates in urban areas. State action would have to be consistent with the Act's requirements.

II. Support For High Cost Areas

A. The Existing Support System

State utility commissions and the Federal Communications Commission (FCC) have separate jurisdiction over telecommunications services. State commissions set rates for intrastate telecommunications services, including local exchange service. The FCC sets rates for interstate services, including interstate toll calls. Telephone company revenues and costs are thus now "separated" into state and interstate components.

Currently the FCC provides two mechanisms to support local exchange companies. These federal programs have significant although indirect effects on those companies' intrastate rates, including local service rates.

The first federal program provides loop support to some local exchange carriers with high costs. This high cost support is intended to ensure that local telephone rates are priced within the means of the average subscriber in all areas of the country.¹ Approximately one-half of the country's local exchange companies receive high cost support, and these companies serve approximately one-fifth of the nation's telephone customers. The amount of high cost support each carrier receives is based upon the difference between that carrier's "non-traffic sensitive" cost and the national average cost. These non-traffic sensitive costs consist largely of loop costs, although some switching costs are included. Only carriers with costs greater than 115 % of the national average cost are eligible for this support. High cost support is reduced substantially for companies serving more than 200,000 lines, a feature that has been strongly criticized by some states. Based on the current rules, the total amount of high cost loop support is \$776 million in 1997. High cost support payments are not provided directly as cash payments to qualifying companies but are accomplished through the separations (Part 36) process.²

The second federal support mechanism allows local exchange carriers serving fewer than 50,000 lines to multiply the interstate ratio of their "dial equipment minutes of use" by a factor that depends upon the number of lines served by the carrier. This effectively transfers costs from the carriers' state to its interstate jurisdiction, thereby allowing a reduction in the intrastate rates set by state commissions. The total annual amount of this support, which is referred to as "DEM weighting," is estimated at \$311 million, of which about \$195 million goes to "cost basis" companies.³

B. The Telecommunications Act of 1996

The Telecommunications Act of 1996 (Act) requires the FCC to enact "specific, predictable, and sufficient mechanisms" to protect universal service.⁴ These mechanisms must

¹ *Amendment of Part 67 of the commission's Rules and Establishment of a Joint Board*, FCC 83-564, CC Docket No. 80-286, Decision and Order adopted December 1, 1983, at paragraphs. 30, 33.

² Under that process, companies receiving loop support have their intrastate costs reduced (and their interstate costs increased) by the amount of that support.

³ The most recent information on DEM weighting comes from the 1996 Monitoring Report of the Docket 80-286 Joint Board, and covers the year 1993. Those figures are used here, without adjustment for inflation. The 1993 total of DEM weighting for cost basis companies was \$182 million.

⁴ 47 U.S.C. § 254(d).

ensure that consumers in all regions of the country, including those in rural, insular, and high cost areas, have access to telecommunications and information services that are "reasonably comparable" to those services provided in urban areas, at rates that are also reasonably comparable to rates charged in urban areas.⁵

Some high cost states have argued that this new language requires a substantial increase in federal support for high cost areas. The argument takes at least three forms:

1. The existing system discriminates in favor of rural customers who are served by small carriers and against rural customers who are served by large carriers.⁶ The Act prohibits continuation of this discrimination.

2. The existing system is based upon a comparison of a carrier's costs with national average costs. However, national average costs are higher than urban costs because costs per line generally decrease as line density increases. The Act requires that rates in rural areas be "reasonably comparable" to rates in urban areas and that the spectrum of services that are available in rural areas be reasonably comparable to those in urban areas.

3. The fundamental policy goal of the Act is to promote competition in the local exchange market. Since increasing competition generally drives prices closer to costs, and since many local rate designs today average rates between high-cost and low-cost areas, increased competition in the local exchange market is widely expected to reduce rates in low-cost urban areas. This in turn may drive up local exchange rates in high-cost rural areas, jeopardizing universal service in those areas.

Low cost states, on the other hand, have expressed a desire to set universal service support at the minimum level consistent with the objectives of the Act. These states have also taken the position that federal support for high cost areas should be drawn from a surcharge on the interstate revenues of interstate carriers, but not the intrastate revenues of those carriers.

Both low cost and high cost states recognize all states are acting to represent the legitimate concerns of their citizens. Both groups of states desire to work together to achieve the Telecommunications Act's purposes.

⁵ 47 U.S.C. § 254(b)(3).

⁶ The current system provides less support for carrier serving more than 200,000 access lines.

C. The FCC Order

In its May 8, 1997 Universal Service Order, the FCC made five fundamental decisions regarding support for high cost areas.

1. The FCC will raise money for high cost support by imposing a charge only on interstate revenues of interstate carriers.⁷ This makes available a national revenue stream of approximately \$65 billion from which to draw support for high cost areas.⁸
2. The FCC will distribute support to any eligible carrier providing service to a customer.⁹
3. The FCC will distribute high cost support based upon the results of a forward-looking cost model.¹⁰ The calculated need for support will be the difference between a carrier's forward-looking cost and a national "benchmark" amount.
4. The FCC will provide 25 % of the calculated support needed.¹¹
5. The FCC will apply federal universal service support to a carrier's revenues in the interstate jurisdiction, in order to reduce the carrier's interstate access charges.¹²

There are two leading models for estimating the "forward looking" costs of providing telephone service, the "Hatfield" and the "BCPM" models. Each of these models predicts a total amount of support needed in each area of the country if a particular "benchmark" is set for company revenues. For purposes of this proposal, a third or "Blended Cost Model" was created, consisting simply of the mean results of the two other models. It is possible to estimate the effects of the FCC's decision using any of these cost models. However, because a final cost model has

⁷ *Federal-State Joint Board on Universal Service*, CC Docket No. 96-45, Order of May 8, 1997, at paragraph 831.

⁸ Previously, the states had disagreed about whether the FCC could or should also impose a surcharge on the approximately \$102 billion in the intrastate retail revenue stream.

⁹ *Federal-State Joint Board on Universal Service*, CC Docket No. 96-45, Order of May 8, 1997, at paragraphs 271 et seq.

¹⁰ *Id.* at paragraph 224-26.

¹¹ *Id.* at paragraph 269.

¹² *Matter of Access Charge Reform*, CC Docket Nos. 96-262, 94-1, 91-213 & 95-72, First Report and Order, Released May 16, 1997, at paragraph 381. As to rural carriers not under price caps, the FCC also said that these carriers should "continue to apply any revenues received from the modified universal service support mechanism that replace amounts received under the current high cost support system to the accounts to which they are currently applying high cost support." *Id.* at paragraph 385.

not been established, numbers in this report should be considered as "indicators" rather than as specific outcomes.

The Blended Cost Model estimates that the national need for support is \$7.8 billion per year. To pay 25 % of this, the FCC would need to raise \$1.96 billion. This would require a surcharge of approximately 3.0 % on all interstate carriers' interstate revenues.

If the FCC provides 25% of the support needed, states may choose to make up the remaining 75% of need through supplemental state programs. In that case, the results will vary by state. For example, North Dakota, which has a large total need, would need to raise and distribute \$16.25 per line per month. To raise this much money, North Dakota would need to impose a surcharge of 35 % on its carriers' intrastate revenues. Similarly, other rural states like Idaho, Montana, South Dakota, and Wyoming all would need surcharge rates higher than 20 %.

By contrast, the District of Columbia would not need to raise any supplemental funds. Other states with large urban populations would need only modest surcharges. California, Massachusetts and New Jersey could each meet their own needs at surcharge rates below 2 %.

Several high cost states have appealed the FCC's universal service order or sought reconsideration, asserting that the FCC scheme of paying only 25% of needed support for high costs, and then assigning those funds to the interstate jurisdiction to reduce access rates, is inconsistent with the statutory mandates of providing federal support under section 254 for rural areas. In particular, these states contend that any system that requires some states to pay such a surcharge of 20 % or more, while allowing other states to impose only nominal surcharges or none at all would, on its face, fail the statutory test of "reasonably comparable" rates. If the courts should agree with these arguments, the results of the Blended Cost Model suggest that a federal support program of almost eight billion dollars could result.

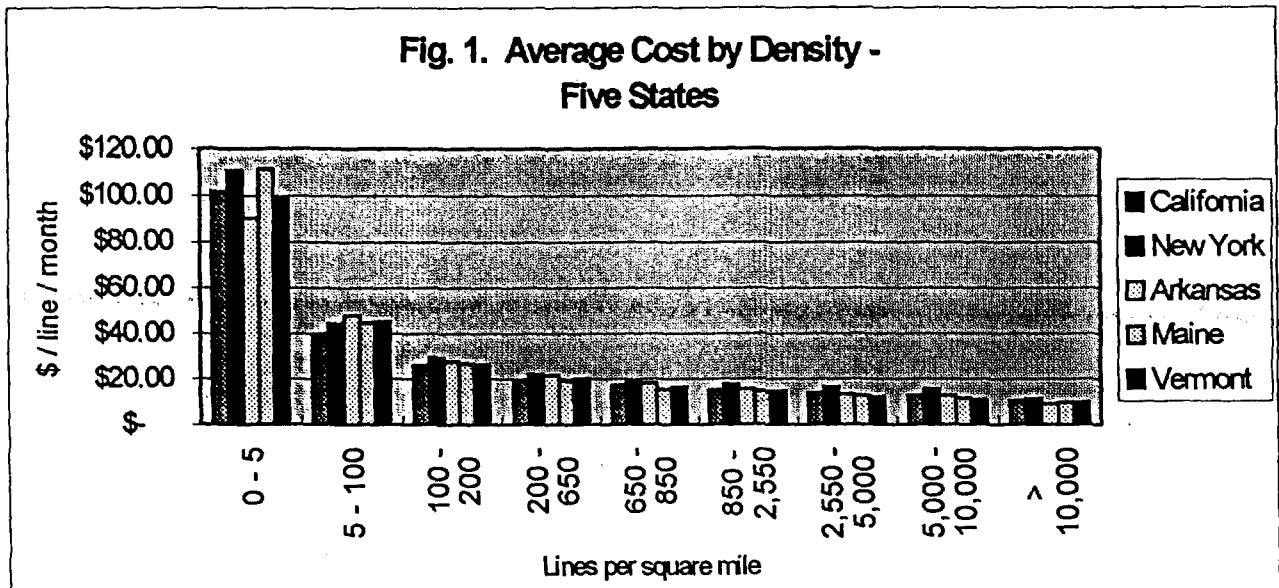
Low cost states have other concerns. Some low cost states are concerned that the establishment of a large federal fund could draw significant funds from their states for the benefit of other states. Such transfers might be particularly difficult for low cost states with substantial low-income populations. Some low cost states are also concerned about possible changes in state and federal regulatory roles that might follow from the establishment of a large federal fund.

III. The Distribution of Costs

The two forward looking cost models under consideration by the FCC each perform detailed cost analyses in small geographic areas. Each model then sorts these geographic areas into zones based upon the density of telephone lines per square mile. While it is not possible to blend the analyses of the two models, either model can be used to examine how density affects

cost.¹³ The results clearly indicate that it is more expensive to provide telecommunications services in rural states than in more densely populated states.

Figure 1 shows, for five states, how forward-looking costs vary in the nine density zones used by the Hatfield model.¹⁴



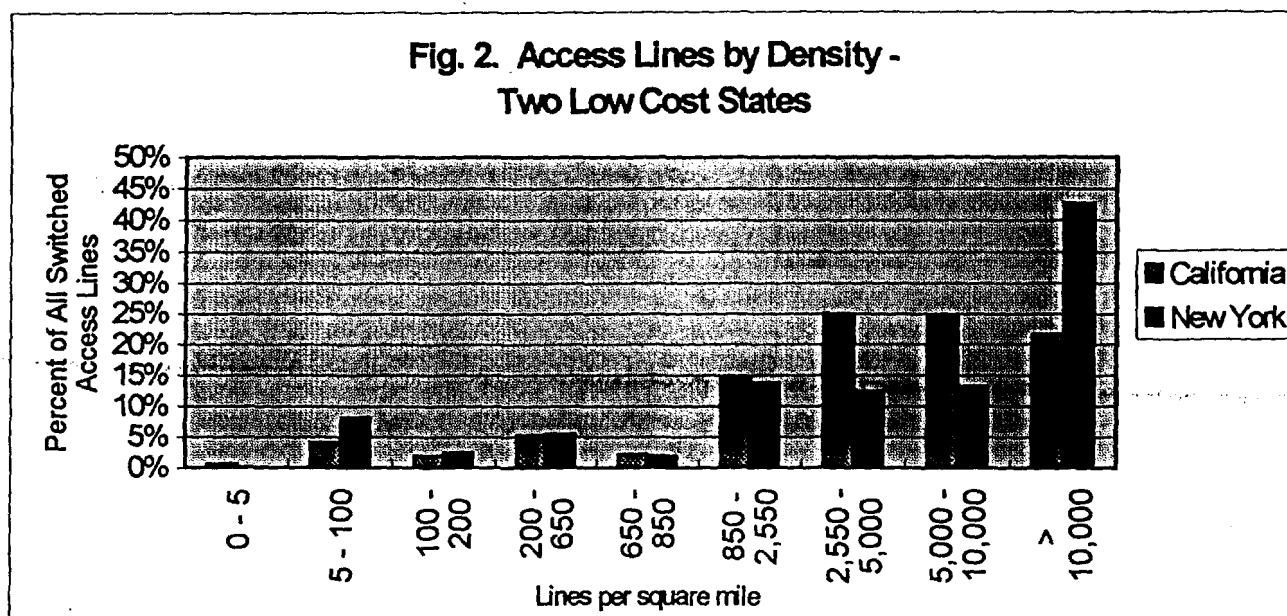
As Figure 1 illustrates, the Hatfield model predicts some cost variations from state to state, but comparatively larger variations from one density zone to another. For the most rural density zone (0 to 5 lines per square mile), costs are typically in the range of \$100 per line per month.¹⁵ In the second density zone (5 to 100 lines per square mile), costs are in the range of \$40 to \$45 per line per month. On the right side on the graph, in the three density zones where density exceeds 2,550 lines per square mile, costs average \$12.77 per month.

¹³ As mentioned above, the Blended Cost Model was prepared because no cost model has yet been adopted by the FCC. The Blended Cost Model, however, is merely an averaging of state-by-state results of the two leading models, BCPM and Hatfield. The density zone analysis within the two models cannot be averaged, however, because they do not agree on the number of density zones and because they do not agree on the upper and lower bounds of the density zones.

¹⁴ Seven zones are used in the BCPM analysis. While the precise numbers may vary, substituting the BCPM model for the Hatfield model produces similar results.

¹⁵ The Hatfield Model data used here was derived from the model author's run using standard design parameters. The five states shown are representative of urban and rural states. Nevertheless, costs in some states were higher or lower than the amounts shown here, particularly in the lowest density zone, from 0 to 5 lines per square mile.

There is little uniformity from state to state, however, with regard to demographics. Figures 2 and 3 show the percentage of access lines found within each density zone for the same five states represented in Figure 1.



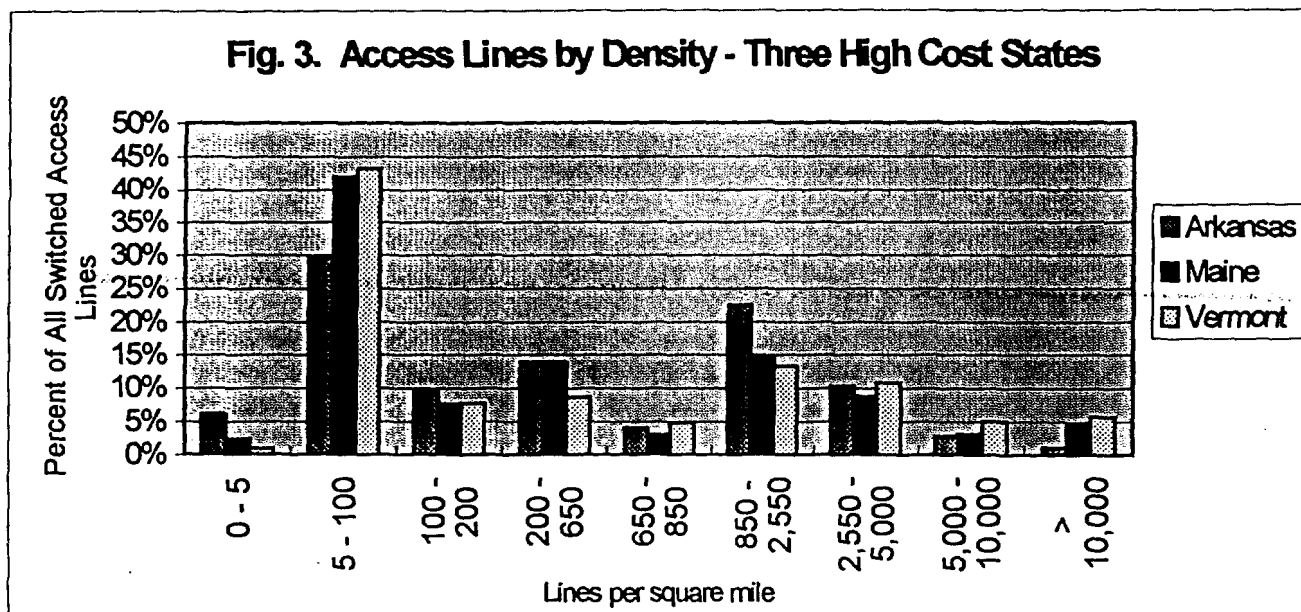
The two more urban states, California and New York, are represented in Figure 2. In California, 72% of the state's access lines are located in the three most dense zones, located on the right side of the graph. The Hatfield study reports the average weighted cost in these three zones in California to be \$12.19 per line per month. In New York, 68% of the access lines are found in those same three densely populated zones with an average cost of \$12.89 per line per month.

The combination of few high-cost lines and many low-cost lines within an urban state inevitably produces a low statewide average cost. Average costs predicted by the Hatfield model are \$15.01 in California and \$17.21 in New York. These states have lower statewide average costs than the national average cost of \$20.52.

In rural states, settlement patterns are quite different. Figure 3 shows the corresponding data for Arkansas, Maine, and Vermont, three states that are more rural than either California or New York. The graph indicates that a greater percentage of access lines in these rural states are found in the lower density zones on the left side of the graph. Indeed, a significant portion of telephone customers in these states live in the second density zone (where density is between 5 to

100 lines per square mile). The characteristic cost within this density zone is approximately \$45 per line per month.¹⁶

Figure 3 also shows that each of these three rural states has only a small proportion of its access lines located in the three highest density zones. Therefore these states have relatively few low-cost lines.



A state with a high percentage of its access lines in high cost areas generally will have a high average cost. Average costs predicted by the Hatfield model are \$31.43 in Arkansas, \$30.42 in Maine, and \$29.45 in Vermont. The statewide average in all three states is about \$10 higher than the national average cost.

Since a high proportion of access lines in these rural states are in low-density and high-cost areas, these states may also have a higher proportion of customers at risk from any rate deaveraging that might follow local exchange competition. While density is not the only determinant of high cost, this analysis demonstrates that some rural states have a high proportion of their access lines in high cost areas. These areas would be particularly vulnerable to rate increases, and the ensuing loss of penetration, if funding for high cost support is insufficient.

¹⁶ Each of the three states also shows increased population in the fifth density zone. This presumably results from the effects of small cities, like Little Rock, Portland, and Burlington. The cost characteristic of this density zone is about \$15 per month.

IV. Principles For the Federal High Cost Support Mechanism

A. Overall Objective

The alternative support plan presented in this paper was designed to produce a federal universal service support mechanism that generates as small a fund as possible yet is consistent with the statutory objective of reasonably comparable rates and services. To accomplish this, the proposal provides federal support to those high cost states that are unable to internally generate the support necessary to maintain rates in high cost areas that are reasonably comparable to rates in urban areas. These states cannot meet the statutory objectives without receiving outside funds because they do not have within their boundaries enough customers (and accompanying revenue) in low cost areas from which to draw that support. In sum, federal support would be provided when it is impossible for a state to internally generate enough support (via a state surcharge on intrastate services) to ensure that rates in rural areas in the state are reasonably comparable to urban average rates in the nation. This means the plan must provide support to states with an average cost that is significantly above the national average cost.

B. Principles

The following principles are tentatively adopted for the collection and distribution of federal universal service funds.

1. Intrastate Purpose.

The principal purpose of high cost support is to establish conditions that permit states to maintain reasonably comparable intrastate rates, and not to reduce interstate access charges.

2. Sufficiency.

Consumers in rural, insular and high cost areas should have access to a similar spectrum of telecommunications services as consumers in urban areas. These services in rural areas should be available at rates that are reasonably comparable to rates charged for similar services in urban areas. This requires federal support for at least some high cost areas. Support mechanisms must be specific, predictable, and sufficient to allow rates to be affordable.

3. Cost-based.

While the federal law speaks to reasonably comparable rates, the use of costs instead of rates is a more consistent measure of a need for federal support in high cost areas. Rates are influenced by numerous uncontrolled variables, such as differences in the allocation of costs between toll and local services and differences in the size of local calling areas.

4. Separations.

Any support system for high cost areas must reflect and be compatible with the federal rules for jurisdictional separation of costs and revenues.

5. State Authority.

Federal support for high cost areas should be distributed in a way that affords maximum respect to the separation of jurisdictions between the federal and state governments, and in particular to the duty of state commissions to set rates for intrastate telecommunications services.

6. Competitive Neutrality.

Collection and distribution of high cost support should be competitively neutral.

C. Principles Conditionally Supported

The following set of principles, when taken in their entirety, are considered to produce a legally acceptable method to calculate federal support for high cost areas.

1. Interstate Revenues.

Collections for the federal high cost support program should be derived from a charge on only the interstate revenues of interstate carriers.

2. Minimum Size.

The federal high cost support program should be as small as possible, consistent with other principles, and its size should be as close to the size of the current federal loop and switch support programs as reasonably practicable.

3. Rural and Non-Rural.

A single federal support program should apply to both rural and non-rural companies, without regard to their size. Also, the same program should apply in both rural and non-rural areas.

4. Loop and Switch.

A single federal support program should replace both the existing federal high cost and DEM weighting programs.¹⁷

5. Rates Comparable Nationally.

The Act requires that rates be reasonably comparable, not only between urban and rural areas within a single state, but also between urban and rural areas in different states.

6. Assumed State Effort.

The total amount of federal support for high cost areas may be reduced because the states also bear a portion of responsibility for providing support in their high cost areas and ensuring that rate levels are comparable to those in urban areas throughout the United States. The level of federal support should be sufficient to permit each state to achieve the objective of having rates equal to the overall national average. Thereafter, the states have the burden, with resources drawn from within the state, to ensure that rates in rural and high cost areas are reasonably comparable to urban rates.

7. State Grants.

Federal support should be distributed to states in the form of a grant to be administered by state commissions. Use of such funds should be limited to support of universal service in state-identified high cost areas. Such distributions should be based on state-performed cost studies meeting minimum criteria established by the FCC.

¹⁷ Other support mechanisms, such as "Long Term Support" are not considered here because they do not directly affect intrastate rates.

8. Use of National Average Costs.

National average costs are about 50 % above urban average costs.¹⁸ This is an acceptable definition of costs that are "reasonably comparable" to urban costs. This means that if the federal and state support systems could ensure that no customer faced a carrier with net costs above the national average, the system thereby could meet the statutory criterion of "reasonably comparable" rates.

9. Separations Effect.

A portion of loop and other costs are presently assigned by Part 36 of the Code of Federal Regulations to the interstate jurisdiction. Therefore, federal support for intrastate rates in high cost states should be equal to the intrastate portion¹⁹ of the difference between a state's average cost and the national average cost. This ensures adequate federal support and prevents double recovery.

10. Cost Models.

Federal support of high cost areas should be based upon the lesser of forward-looking and embedded costs. This will ameliorate the tendency of some forward-looking cost models to overstate costs in some areas because of the inaccuracy of modeling customer locations. It will also reduce the overall size of the federal fund.²⁰

¹⁸ For example, as noted earlier, the Hatfield model reports the average cost within each state by density zone. Three of nine Hatfield zones have a density of 2,550 lines per square mile or more. If "urban areas" are defined as areas with at least 2,550 lines per square mile, the cost under the Hatfield model in such areas appears, nationwide, to be \$12.77 per line per month. The Hatfield model also reports the national average cost, in all density zones, to be \$20.52 per month. The national average under Hatfield is therefore about 60 % higher than the urban average.

Using the results of the BCPM model, version 1.1, a similar result is found. BCPM version 1.1 reports a nationwide average cost of \$35.30. Under BCPM there are two density zones (of seven) with a density of more than 2,000 lines per square mile. The average cost in these zones is \$24.25. The national average is therefore 46 % higher than the average.

¹⁹ The 75 % factor used in the estimates here is an approximation of the composite state separations factor. It is used here for illustrative purposes to determine the approximate size of the federal fund required.

The final plan should use each state's individual composite separations factor in lieu of the fixed 75 % amount. That change would not significantly alter the amount of money allocated to each state nor would it significantly alter the total size of the fund.

²⁰ The logic supporting the lower of forward-looking and embedded costs is the same as that used to support the FCC's bidding proposal. That is, if bidding is adopted as a method for providing universal service, it would be expected that the winning bid in most areas would be based upon the lower of the incumbent LEC's embedded costs and a new competitor's forward-looking costs of constructing a new network.

11. Hold Harmless.

Federal support for a state should be not less than the amount currently received by carriers in that state in the form of high cost support plus DEM weighting for cost companies.

V. How Does the Proposal Work?

In accordance with the preceding principles, a five part calculation will produce a federal support amount for each state which, in conjunction with state programs, will meet the statutory criterion of reasonably comparable rates.

The estimated support amounts using this methodology are attached in Appendix A. It is important to note that the data used in Appendix A have some limitations, and should be considered illustrative rather than definitive. As more refined data become available, support for individual states may increase or decrease. The data presented should, however, be sufficiently accurate to permit assessment of the validity of the model for distribution proposed here.

A. Step 1 - Forward Looking Support

In this step, the average cost in each state is calculated using a forward-looking cost model. Since the BCPM and Hatfield models seem to be the leading contenders for approval, the mean of the outputs from these two models is used ("Blended Cost Model"). Federal support under Step 1 is set equal to 75 %²¹ of that amount which, if distributed to carriers, would allow the state's net cost to be reduced to the national average.²²

For example, under the Blended Cost Model, Alabama has an average cost of \$37.43 per line per month. This is \$9.31 above the national average of \$28.12. Alabama's Step 1 support level therefore is \$6.98 per line per month, which is 75% of \$9.31.

By contrast, California has an average cost of \$21.94 per line per month. This is below the national average of \$28.12. Therefore, California does not receive any support from Step 1.

The amounts of support calculated in this way on a state-by-state basis is considerably smaller than the support calculated by the same models at the wire center or census block level. The reason is that the calculation here aims only to reduce each state's average cost, not to

²¹ The 75 % factor used here is an approximation of the composite state separations factor. It is used here for illustrative purposes to determine the approximate size of the federal fund required. It may be desirable in the final plan to use each state's individual composite separations factor in lieu of the fixed 75 % amount. That change would not dramatically alter the amount of money allocated to each state nor would it dramatically alter the total size of the fund.

²² The traditional outputs of forward-looking cost models is an amount of "support needed," assuming a particular benchmark. The calculation here disregards this traditional output of the cost models. Rather, the only outputs used are average cost and number of lines.

provide support to each small geographic area within the state that might have high cost. States are free to provide the extra level of support, as authorized by the Act.²³ States with low average cost, however, will not get federal support, and would have to support their own high cost areas from state-generated funds.

B. Step 2 - Embedded Cost Support

The calculation here is the same as in Step 1, except that embedded costs are used instead of forward-looking costs.²⁴

C. Step 3 - Lesser of Above

This step calculates the lesser of the results from Step 1 and Step 2.

The effect of this step is to ensure that the forward looking cost models do not overstate the real need for support in a state. When a state has embedded costs that are lower than the projected forward-looking costs, this could be due to modeling error. Alternatively, embedded costs might be low in that state because of depreciation or for other reasons. In either case, limiting support to the lesser of forward-looking need or embedded need conserves federal financial resources and reduces the likely effect of any errors that might remain in the cost proxy models.

²³ 47 U.S.C. § 254(f).

²⁴ Embedded cost is set equal to the sum of:

(a) 1996 unseparated NTS revenue requirement of all carriers, as reported to the FCC and as further reported in the 1997 Monitoring Report prepared by the Docket 80-286 Joint Board staff; and

(b) 1993 DEM weighting for carriers not treated as average schedule companies, as reported in the May, 1996 Monitoring Report prepared by the Docket 80-286 Joint Board staff.

Ideally, data used in Step 2 would represent more than loop costs and switching costs, and would include come transport costs. Such costs are included in the Step 1 distribution data. Also, data used in Step 2 would ideally include actual embedded statewide average switching costs per line, not the DEM weighting data used here. Further work may be needed to make the data used in Step 2 more consistent with the costs imposed by services eligible for universal service support.

D. Step 4 - Hold Harmless

This step calculates a hold-harmless level for each state. The amount is the sum, in 1997, of projected high cost support to carriers in that state, plus DEM weighting for local exchange companies that are not average schedule companies.²⁵

E. Step 5 - Greater of Above

This step takes the larger of the results from Step 3 and Step 4. It simply sets the hold-harmless amount as the minimum support level for each state.

The amount of support calculated in step 5 would be distributed to each state commission, and then be further distributed by that state commission to support the provision of universal service to customers in high cost areas, using a mechanism selected by the state commission.

The FCC would review state plans for distributing these funds. The FCC would approve any state plan that meets two requirements. State plans would need to advance the objectives of section 254 of the Act, including the requirement that rates and service in rural areas be reasonably comparable to those in urban areas. State plans would also need to be competitively neutral.²⁶

VI. Benefits

The proposed program described above would have the following benefits:

1. Benefit to state jurisdictions maximized.

Under the FCC's plan for high cost support, as announced on May 8, high cost support would be used to reduce interstate access charges. Thus the immediate beneficiaries of the FCC's program would be interstate service providers who might then choose to pass these cost reductions along in the form of rate reductions. If rates were reduced, benefits would not necessarily flow to the states from which the contributions came, but, under the Act,²⁷ would produce nationwide toll rate decreases.

²⁵ The amount shown in the attachments may be an underestimate. The data used here include:
(a) a NECA estimate of high cost support for 1997 made during the summer of 1997; and
(b) 1993 DEM weighting for carriers not treated as average schedule companies, as reported in the May, 1996 Monitoring Report prepared by the Docket 80-286 Joint Board staff. The latter data may be an underestimate of the current cost of the DEM weighting program.

²⁶ The competitive neutrality requirement might require that carrier support be "portable."

²⁷ 47 U.S.C. §254(g).

Under this alternative plan, while the benefits vary greatly from one state to another, all of the money produced would be used by state commissions to reduce intrastate rates. This is consistent with the purpose of the present high cost funding program.

2. Cost minimized.

The total cost at Step 5 of the Proposal, using the Blended Cost Model, is estimated at \$1.68 billion. This is an increase from the current total support (high cost and DEM weighting) of approximately \$1 billion.

This proposal will actually impose a smaller financial burden on interstate revenues than the FCC's current plan. It is estimated that the cost of implementing the FCC's plan for high cost funding alone (as per the May 8 order) would be \$1.96 billion, again assuming the Blended Cost Model.

This plan also requires considerably less support than that calculated by the leading forward-looking cost models. Those models calculate support on a wire-center-by-wire-center basis (or smaller). The size of the fund is determined by adding together the difference between the cost of providing service in each wire center and a national benchmark of \$31 for residential lines and \$51 for business lines. The Blended Cost Model predicts a national fund of \$7.8 billion if all costs must be paid by federal high cost support.²⁸

3. Intrastate revenues unaffected.

This proposal would be financed by a surcharge on the interstate revenues of interstate carriers. Intrastate revenues would not be affected.

4. Sufficiency.

Assuming that the national average cost is "reasonably comparable" to urban costs, this proposal, in conjunction with state-raised funds, would be sufficient to ensure that all rural areas have intrastate rates no higher than those "reasonably comparable" to urban areas.

5. Benefits flow to all rural areas.

This plan treats all rural customers equally. The size of a carrier (e.g. > 50,000 lines or > 200,000 lines) is not considered in the calculation. By contrast, the FCC's plan differentiates

²⁸ The difference between the amount of support provided in this proposal and that provided on a wire center model is approximately equal to the amount of the existing implicit subsidies in a study area. Under the plan proposed here, states would be responsible for funding any implicit subsidies they choose to make explicit through their state universal service funds.

between rural customers served by "rural carriers" and rural customers served by "non-rural carriers."

6. State jurisdiction protected.

There would be no requirement that states take any particular action in setting intrastate rates. States would, however, be jointly responsible with the FCC for ensuring that the universal service mandates of the Act are fulfilled.

7. State discretion.

State commissions would need to develop a mechanism to distribute high cost support.²⁹ However, they would have discretion, within the constraints of the Telecommunications Act, to apply federal support where it is needed. In particular, states could decide whether to reduce toll charges or dial tone charges. States could also allocate support among large companies and small companies.

8. Competitive neutrality.

Federal funds would be distributed to state commissions, and the federal distribution would therefore be competitively neutral. In distributing these funds, state commissions would also demonstrate, based on their plans approved by the FCC, that they would not establish a preference for a particular kind of carrier or technology.

9. Cost-based.

Support would be distributed based upon costs, both forward-looking and embedded.

10. Litigation risk minimized.

This proposal could eliminate the uncertainty arising from pending litigation in the Fifth Circuit of the United States Court of Appeals. In that court, at least one low-average-cost state is seeking to determine whether the FCC has authority to levy charges on the intrastate revenues of interstate carriers. In addition, at least one high-average-cost state is seeking a ruling on whether the FCC's May 8 order is sufficient to ensure that rates in rural and high cost areas will be reasonably comparable to rates in urban areas.

If the Court should rule in favor of the high-average-cost state that the FCC must provide all of the support calculated under a forward looking cost model, the Blended Model would

²⁹ That burden would be likely to fall on states in any case if the existing FCC order were implemented. Several states already have high cost support mechanisms in place.

predict that the size of the federal fund might need to be \$7.8 billion, more than four times as large as the fund required here.

11. All states benefit.

As compared to the FCC plan, which would raise \$2 billion but provide no support to the intrastate jurisdiction, this plan benefits every state.³⁰ In several cases, the alternative plan would not increase support to a particular state; yet the citizens in that state would make a smaller contribution to the federal fund than under the FCC plan.

³⁰ The FCC's plan would also be likely to produce benefits to customers in all states in the form of national reductions in interstate toll rates. While this could be a substantial benefit to telephone customers in each state, the magnitude of such reductions is unknown.

This analysis assumes that the FCC plan would not give any support to the intrastate jurisdiction. The FCC's intentions on this question are not entirely clear, and several states have requested clarification on this point.

<p align="center">High Cost Modeling Project Federal Support to Intrastate Jurisdiction Block Grant to State - Part 1 - Support Calculation</p>	<p>Step 1: Calculate 75% of excess forward looking cost above stated threshold. Step 2: Calculate 75% of excess embedded cost above stated threshold. Step 3: Calculate the lesser of results 1 and 2. Step 4: Calculate 1997 USF payments times stated protection level. Step 5: Federal support equals greater of results 3 and 4.</p>
<p>10/31/97 13:28</p>	

10/31/97 13:28 Step 5: Federal support equals greater of results 3 and 4.

<p align="center">High Cost Modeling Project Federal Support to Intrastate Jurisdiction Block Grant to State - Part 1 - Support Calculation</p>	<p>Step 1: Calculate 75% of excess forward looking cost above stated threshold. Step 2: Calculate 75% of excess embedded cost above stated threshold. Step 3: Calculate the lesser of results 1 and 2. Step 4: Calculate 1997 USF payments times stated protection level. Step 5: Federal support equals greater of results 3 and 4.</p>
<p>10/31/97 13:28</p>	

	Federal Support to Intrastate Jurisdiction									
	Step 1: Calculate Forward- Looking Support		Step 2: Calculate Embedded Cost Support		Step 3: Lesser of Steps 1 and 2		Step 4: Hold Harmless		Step 5: Federal Support = Greater of Steps 3 & 4	
	Threshold= 100% or = \$ 28.12		Threshold= 100% or = \$ 20.78				Protection Level = 100%			
	per line per mo.	Annual Total	per line per mo.	Annual Total	per line per mo.	Annual Total	per line per mo.	Annual Total	per line per mo.	Annual Total
	(\$ / l / mo)	(\$ millions)	(\$ / l / mo)	(\$ millions)	(\$ / l / mo)	(\$ millions)	(\$ / l / mo)	(\$ millions)	(\$ / l / mo)	(\$ millions)
Alabama	\$ 6.98	\$ 188	\$ 1.27	\$ 34	\$ 1.27	\$ 34	\$ 1.11	\$ 30	\$ 1.27	\$ 34
Arizona	\$ 0.56	\$ 16	\$ 8.44	\$ 245	\$ 0.56	\$ 16	\$ 0.71	\$ 21	\$ 0.71	\$ 21
Arkansas	\$ 10.59	\$ 161	\$ 6.57	\$ 100	\$ 6.57	\$ 100	\$ 3.26	\$ 50	\$ 6.57	\$ 100
California	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 0.16	\$ 38	\$ 0.16	\$ 38
Colorado	\$ 1.16	\$ 33	\$ 0.92	\$ 26	\$ 0.92	\$ 26	\$ 0.91	\$ 26	\$ 0.92	\$ 26
Connecticut	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Delaware	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
District of Columbia	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Florida	\$ -	\$ -	\$ 3.35	\$ 381	\$ -	\$ -	\$ 0.25	\$ 28	\$ 0.25	\$ 28
Georgia	\$ 2.27	\$ 116	\$ 4.06	\$ 207	\$ 2.27	\$ 116	\$ 0.81	\$ 41	\$ 2.27	\$ 116
Hawaii	\$ -	\$ -	\$ 1.24	\$ 10	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Idaho	\$ 9.92	\$ 75	\$ 4.61	\$ 35	\$ 4.61	\$ 35	\$ 3.12	\$ 24	\$ 4.61	\$ 35
Illinois	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 0.08	\$ 7	\$ 0.08	\$ 7
Indiana	\$ 1.54	\$ 60	\$ -	\$ -	\$ -	\$ -	\$ 0.14	\$ 5	\$ 0.14	\$ 5
Iowa	\$ 7.50	\$ 138	\$ -	\$ -	\$ -	\$ -	\$ 0.21	\$ 4	\$ 0.21	\$ 4
Kansas	\$ 6.87	\$ 121	\$ 2.99	\$ 53	\$ 2.99	\$ 53	\$ 2.34	\$ 41	\$ 2.99	\$ 53
Kentucky	\$ 7.31	\$ 171	\$ 3.18	\$ 74	\$ 3.18	\$ 74	\$ 0.53	\$ 12	\$ 3.18	\$ 74
Louisiana	\$ 2.36	\$ 65	\$ 4.58	\$ 126	\$ 2.36	\$ 65	\$ 1.67	\$ 46	\$ 2.36	\$ 65
Maine	\$ 8.18	\$ 74	\$ 4.47	\$ 41	\$ 4.47	\$ 41	\$ 1.06	\$ 10	\$ 4.47	\$ 41
Maryland	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Massachusetts	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 0.00	\$ 0	\$ 0.00	\$ 0
Michigan	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 0.28	\$ 20	\$ 0.28	\$ 20
Minnesota	\$ 3.28	\$ 107	\$ -	\$ -	\$ -	\$ -	\$ 0.35	\$ 12	\$ 0.35	\$ 12
Mississippi	\$ 10.26	\$ 153	\$ 6.85	\$ 102	\$ 6.85	\$ 102	\$ 1.19	\$ 18	\$ 6.85	\$ 102
Missouri	\$ 3.37	\$ 123	\$ 1.05	\$ 39	\$ 1.05	\$ 39	\$ 0.93	\$ 34	\$ 1.05	\$ 39
Montana	\$ 19.25	\$ 111	\$ 6.55	\$ 38	\$ 6.55	\$ 38	\$ 4.21	\$ 24	\$ 6.55	\$ 38
Nebraska	\$ 8.98	\$ 103	\$ -	\$ -	\$ -	\$ -	\$ 1.03	\$ 12	\$ 1.03	\$ 12
Nevada	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 0.53	\$ 7	\$ 0.53	\$ 7
New Hampshire	\$ 2.62	\$ 23	\$ 5.35	\$ 48	\$ 2.62	\$ 23	\$ 0.95	\$ 9	\$ 2.62	\$ 23
New Jersey	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 0.02	\$ 1	\$ 0.02	\$ 1
New Mexico	\$ 8.57	\$ 86	\$ 5.22	\$ 53	\$ 5.22	\$ 53	\$ 2.60	\$ 26	\$ 5.22	\$ 53
New York	\$ -	\$ -	\$ 1.18	\$ 170	\$ -	\$ -	\$ 0.15	\$ 22	\$ 0.15	\$ 22
North Carolina	\$ 3.47	\$ 176	\$ 2.68	\$ 136	\$ 2.68	\$ 136	\$ 0.47	\$ 24	\$ 2.68	\$ 136
North Dakota	\$ 18.34	\$ 91	\$ 2.29	\$ 11	\$ 2.29	\$ 11	\$ 1.83	\$ 9	\$ 2.29	\$ 11
Ohio	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 0.06	\$ 5	\$ 0.06	\$ 5
Oklahoma	\$ 6.52	\$ 140	\$ 2.48	\$ 53	\$ 2.48	\$ 53	\$ 1.68	\$ 36	\$ 2.48	\$ 53
Oregon	\$ 3.52	\$ 78	\$ 2.01	\$ 45	\$ 2.01	\$ 45	\$ 0.93	\$ 21	\$ 2.01	\$ 45
Pennsylvania	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 0.04	\$ 4	\$ 0.04	\$ 4
Rhode Island	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
South Carolina	\$ 4.62	\$ 109	\$ 6.44	\$ 152	\$ 4.62	\$ 109	\$ 1.35	\$ 32	\$ 4.62	\$ 109
South Dakota	\$ 18.59	\$ 93	\$ 0.81	\$ 4	\$ 0.81	\$ 4	\$ 1.24	\$ 6	\$ 1.24	\$ 6
Tennessee	\$ 3.64	\$ 134	\$ 1.53	\$ 56	\$ 1.53	\$ 56	\$ 0.21	\$ 8	\$ 1.53	\$ 56
Texas	\$ 0.29	\$ 37	\$ 1.72	\$ 220	\$ 0.29	\$ 37	\$ 0.71	\$ 90	\$ 0.71	\$ 90
Utah	\$ 1.25	\$ 15	\$ -	\$ -	\$ -	\$ -	\$ 0.45	\$ 5	\$ 0.45	\$ 5
Vermont	\$ 7.89	\$ 35	\$ 7.11	\$ 32	\$ 7.11	\$ 32	\$ 1.77	\$ 8	\$ 7.11	\$ 32
Virginia	\$ 0.37	\$ 18	\$ -	\$ -	\$ -	\$ -	\$ 0.11	\$ 5	\$ 0.11	\$ 5
Washington	\$ -	\$ -	\$ 0.20	\$ 8	\$ -	\$ -	\$ 0.71	\$ 28	\$ 0.71	\$ 28
West Virginia	\$ 11.17	\$ 123	\$ 5.84	\$ 64	\$ 5.84	\$ 64	\$ 1.81	\$ 20	\$ 5.84	\$ 64
Wisconsin	\$ 2.29	\$ 84	\$ -	\$ -	\$ -	\$ -	\$ 0.56	\$ 21	\$ 0.56	\$ 21
Wyoming	\$ 19.41	\$ 64	\$ 8.78	\$ 29	\$ 8.78	\$ 29	\$ 3.33	\$ 11	\$ 8.78	\$ 29
Total		\$ 3,123		\$ 2,591		\$ 1,391		\$ 899		\$ 1,675
Maximum Value										
Minimum Value										
National Average										

High Cost Modeling Project
Federal Support to Intrastate Jurisdiction
Block Grant to State - Part 2 - Data Listing

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	Fwd Looking Cost Models - Blended			Embedded Costs		Hold - Harmless Base		Revenue Bases	
	Access Lines	Average Cost		Unsep.NTS Rev. Req. Plus DEM Weighting (see note below)		(USF + DEM)		Interstate Retail Revenue	Intrastate Retail Revenue
		Cost per Access Line per month	Excess Cost Above National Average	Annual Amount	per line per month	Annual Amount	per line per month		
		(\$ / l / mo)	(\$ / l / mo)	(\$ millions)	(\$ / l / mo)	(\$ millions)	(\$ / l / mo)	(\$ millions)	(\$ millions)
Alabama	2,249,642	\$ 37.43	\$ 9.31	\$ 607	\$ 22.48	\$ 30	\$ 1.11	\$ 868	\$ 1,500
Arizona	2,415,476	\$ 28.87	\$ 0.75	\$ 929	\$ 32.04	\$ 21	\$ 0.71	\$ 1,232	\$ 1,225
Arkansas	1,270,190	\$ 42.25	\$ 14.12	\$ 450	\$ 29.54	\$ 50	\$ 3.26	\$ 526	\$ 803
California	20,199,351	\$ 21.94	\$ -	\$ 4,027	\$ 16.61	\$ 38	\$ 0.16	\$ 6,322	\$ 13,488
Colorado	2,380,232	\$ 29.67	\$ 1.55	\$ 629	\$ 22.01	\$ 26	\$ 0.91	\$ 1,236	\$ 1,465
Connecticut	2,041,315	\$ 25.60	\$ -	\$ 497	\$ 20.28	\$ -	\$ -	\$ 1,082	\$ 1,406
Delaware	497,697	\$ 25.08	\$ -	\$ 105	\$ 17.66	\$ -	\$ -	\$ 237	\$ 198
District of Columbia	913,735	\$ 16.36	\$ -	\$ 67	\$ 6.13	\$ -	\$ -	\$ 372	\$ 409
Florida	9,490,147	\$ 24.77	\$ -	\$ 2,874	\$ 25.24	\$ 28	\$ 0.25	\$ 4,099	\$ 5,860
Georgia	4,251,471	\$ 31.16	\$ 3.03	\$ 1,337	\$ 26.20	\$ 41	\$ 0.81	\$ 2,085	\$ 2,884
Hawaii	690,702	\$ 24.69	\$ -	\$ 186	\$ 22.44	\$ -	\$ -	\$ 269	\$ 424
Idaho	633,471	\$ 41.35	\$ 13.22	\$ 205	\$ 26.93	\$ 24	\$ 3.12	\$ 321	\$ 329
Illinois	7,556,209	\$ 24.66	\$ -	\$ 1,247	\$ 13.75	\$ 7	\$ 0.08	\$ 2,701	\$ 4,408
Indiana	3,242,405	\$ 30.18	\$ 2.06	\$ 747	\$ 19.20	\$ 5	\$ 0.14	\$ 1,177	\$ 2,070
Iowa	1,528,944	\$ 38.12	\$ 10.00	\$ 326	\$ 17.74	\$ 4	\$ 0.21	\$ 629	\$ 908
Kansas	1,466,538	\$ 37.28	\$ 9.16	\$ 436	\$ 24.77	\$ 41	\$ 2.34	\$ 629	\$ 904
Kentucky	1,947,323	\$ 37.87	\$ 9.74	\$ 585	\$ 25.02	\$ 12	\$ 0.53	\$ 892	\$ 1,381
Louisiana	2,288,139	\$ 31.27	\$ 3.15	\$ 738	\$ 26.89	\$ 46	\$ 1.67	\$ 871	\$ 1,552
Maine	755,744	\$ 39.03	\$ 10.90	\$ 242	\$ 26.74	\$ 10	\$ 1.06	\$ 302	\$ 439
Maryland	3,292,070	\$ 23.97	\$ -	\$ 703	\$ 17.79	\$ -	\$ -	\$ 1,414	\$ 1,942
Massachusetts	4,148,326	\$ 22.78	\$ -	\$ 875	\$ 17.57	\$ 0	\$ 0.00	\$ 1,804	\$ 2,594
Michigan	5,860,939	\$ 27.90	\$ -	\$ 1,267	\$ 18.01	\$ 20	\$ 0.28	\$ 1,776	\$ 3,949
Minnesota	2,720,511	\$ 32.50	\$ 4.38	\$ 612	\$ 18.76	\$ 12	\$ 0.35	\$ 1,075	\$ 1,557
Mississippi	1,245,532	\$ 41.81	\$ 13.68	\$ 447	\$ 29.91	\$ 18	\$ 1.19	\$ 529	\$ 872
Missouri	3,052,815	\$ 32.61	\$ 4.49	\$ 813	\$ 22.19	\$ 34	\$ 0.93	\$ 1,207	\$ 1,869
Montana	480,433	\$ 53.79	\$ 25.66	\$ 170	\$ 29.52	\$ 24	\$ 4.21	\$ 239	\$ 304
Nebraska	953,532	\$ 40.10	\$ 11.97	\$ 233	\$ 20.33	\$ 12	\$ 1.03	\$ 400	\$ 688
Nevada	1,040,173	\$ 27.53	\$ -	\$ 193	\$ 15.50	\$ 7	\$ 0.53	\$ 1,710	\$ 1,113
New Hampshire	744,121	\$ 31.62	\$ 3.49	\$ 249	\$ 27.91	\$ 9	\$ 0.95	\$ 421	\$ 419
New Jersey	5,785,830	\$ 20.92	\$ -	\$ 1,147	\$ 16.52	\$ 1	\$ 0.02	\$ 2,844	\$ 3,345
New Mexico	840,662	\$ 39.56	\$ 11.43	\$ 280	\$ 27.73	\$ 26	\$ 2.60	\$ 448	\$ 513
New York	11,985,732	\$ 22.80	\$ -	\$ 3,216	\$ 22.36	\$ 22	\$ 0.15	\$ 4,964	\$ 8,298
North Carolina	4,220,030	\$ 32.75	\$ 4.63	\$ 1,233	\$ 24.35	\$ 24	\$ 0.47	\$ 1,781	\$ 2,932
North Dakota	411,747	\$ 52.58	\$ 24.46	\$ 118	\$ 23.83	\$ 9	\$ 1.83	\$ 177	\$ 233
Ohio	6,338,646	\$ 27.60	\$ -	\$ 1,385	\$ 18.21	\$ 5	\$ 0.06	\$ 2,391	\$ 4,791
Oklahoma	1,794,810	\$ 36.82	\$ 8.70	\$ 519	\$ 24.08	\$ 36	\$ 1.68	\$ 725	\$ 1,033
Oregon	1,849,817	\$ 32.82	\$ 4.69	\$ 521	\$ 23.47	\$ 21	\$ 0.93	\$ 820	\$ 1,051
Pennsylvania	7,569,252	\$ 26.43	\$ -	\$ 1,635	\$ 18.00	\$ 4	\$ 0.04	\$ 2,831	\$ 4,171
Rhode Island	608,876	\$ 23.46	\$ -	\$ 138	\$ 18.94	\$ -	\$ -	\$ 289	\$ 311
South Carolina	1,961,543	\$ 34.29	\$ 6.16	\$ 691	\$ 29.36	\$ 32	\$ 1.35	\$ 893	\$ 1,429
South Dakota	415,693	\$ 52.92	\$ 24.79	\$ 109	\$ 21.86	\$ 6	\$ 1.24	\$ 192	\$ 221
Tennessee	3,061,932	\$ 32.97	\$ 4.85	\$ 839	\$ 22.83	\$ 8	\$ 0.21	\$ 1,257	\$ 1,817
Texas	10,635,340	\$ 28.51	\$ 0.39	\$ 2,945	\$ 23.07	\$ 90	\$ 0.71	\$ 3,743	\$ 6,873
Utah	976,743	\$ 29.79	\$ 1.66	\$ 226	\$ 19.30	\$ 5	\$ 0.45	\$ 457	\$ 505
Vermont	373,218	\$ 38.64	\$ 10.52	\$ 136	\$ 30.26	\$ 8	\$ 1.77	\$ 199	\$ 193
Virginia	4,109,142	\$ 28.62	\$ 0.50	\$ 1,004	\$ 20.35	\$ 5	\$ 0.11	\$ 1,871	\$ 2,473
Washington	3,250,647	\$ 27.94	\$ -	\$ 821	\$ 21.04	\$ 28	\$ 0.71	\$ 1,416	\$ 2,004
West Virginia	916,662	\$ 43.01	\$ 14.89	\$ 314	\$ 28.56	\$ 20	\$ 1.81	\$ 384	\$ 606
Wisconsin	3,078,873	\$ 31.17	\$ 3.05	\$ 675	\$ 18.28	\$ 21	\$ 0.56	\$ 1,041	\$ 1,856
Wyoming	272,670	\$ 54.01	\$ 25.88	\$ 106	\$ 32.48	\$ 11	\$ 3.33	\$ 159	\$ 152
Total	159,815,046			\$ 39,853		\$ 899		\$ 65,305	\$ 101,770
Maximum Value			\$ 25.88						
Minimum Value			\$ -						
National Average		\$ 28.12		\$ 20.78					

Note on embedded costs: These data are suggestive only. Statewide all-carrier data for switching costs have not been calculated. DEM weighting numbers for cost companies have been used instead. Therefore the results shown here are very preliminary only.